NGA-EAST OVERVIEW: DEVELOPMENT OF GROUND MOTION PREDICTION EQUATIONS FOR CENTRAL AND EASTERN NORTH AMERICA

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The Next Generation Attenuation project for Central and Eastern North America (NGA-East) is a large multi-disciplinary project with the goal of developing a new ground motion characterization model for the Central and Eastern North-American (CENA) region. The project is coordinated through the Pacific Earthquake Engineering Research center (PEER) as a combination of 1) a research project and 2) a model-building project following the Seismic Senior Hazard Analysis Committee (SSHAC) Level 3 process. NGA-East faces many challenges, most of them related to the relatively small number of earthquake recordings available for CENA. To address this shortcoming, the project will rely on ground motion simulations to supplement the ground motion database developed for the project. Important scientific issues are addressed through targeted research projects on the regionalization of seismic source, path and attenuation of motions, local linear and nonlinear site response characterization and the treatment of variability and uncertainties. Seven working groups have been formed to cover the complexity and breadth of topics in the NGA-East project, each focused on a specific technical area. The model will consist in a set of new ground motion prediction equations (GMPEs) for median and standard deviation of ground motions and their associated weights in logic-trees for use in probabilistic seismic hazard analyses (PSHA). An overview of the project is presented followed by highlights on recent progress on key technical tasks.